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*Examining the Effects of
Accreditation on Military
Child Development Center
Operations and Outcomes*

*Gail L. Zellman, Anne S. Johansen,
Jeannette Van Winkle*

National Defense Research Institute

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*Gail L. Zellman, Anne S. Johansen,
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Preface

This document was prepared for the Under Secretary of Defense for Personnel and Readiness (Personnel Support, Families and Education) and is the first of two reports that explore the implementation of the Military Child Care Act (MCCA) of 1989. This report fulfills an MCCA mandate to assess the effect of accreditation of military child development centers (CDCs) on child outcomes.

The objectives of this research were fourfold: to analyze the accreditation process; to examine the effect of accreditation on CDC staff morale, professionalism, and interactions; to explore the perceived impact of accreditation on child outcomes; and to assess the incremental value of accreditation over the benefits associated with DoD certification of CDCs.

The report uses information derived from documents on certification and accreditation published, respectively, by DoD and the National Association for the Education of Young Children (NAEYC), data collected during site visits to 17 military installations and four major commands, and data collected from a worldwide mail survey of Child Development Program directors.

These data and the recommendations that follow should help Congress and military policymakers, child care managers, and installation-level commands better understand the accreditation process and the unique benefits it provides to CDC children, staff, and parents.

The research was conducted by the Defense Manpower Research Center, part of RAND's National Defense Research Institute, a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, and the defense agencies.

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Summary

Background

In November 1989, Congress passed the Military Child Care Act (MCCA) as part of the National Defense Authorization Act for 1990 and 1991. The goals of the new law were to improve the availability and quality of child care services in the military. An additional aim of the act was to standardize the delivery and quality of care across installations and military services, which in 1989 varied considerably.

Much of the act focused on changes to be made in staffing, training, compensation, and funding. But the MCCA also contained a provision that required at least 50 military child development centers (CDCs) to be accredited in accordance with the standards of a national accrediting body for early childhood programs. Accreditation of these 50 centers was to be completed by June 1, 1991. The 50 accredited CDCs were to serve as a "demonstration program" from which other nonaccredited centers could learn about best practice. An independent organization was to evaluate the effect of CDC accreditation on child outcomes. This evaluation would compare child outcomes in accredited and nonaccredited centers. Study data would shed light on the effects of accreditation and address the desirability of mandating that all military CDCs be accredited.

Congress's intention to assess the benefits of accreditation was stymied by several realities inherent in the passage of the MCCA. In particular, the requirement that the accreditation of the first 50 CDCs be completed by June 1, 1991, led to a disproportionately high number of already high-quality and exemplary centers in the initial accreditation group.

Given the biased nature of the "demonstration program" centers, a study of the effects of accreditation on child outcomes could not authoritatively determine its value. Thus, DoD staff concluded that the cost of its implementation was not justified.

Study Design

Given these realities, RAND staff, in consultation with Personnel Support, Families and Education (PSF&E) staff, set out to develop a research plan of more limited scope.

The final accreditation study design employs a variety of different methods that together converge to assess the effect of accreditation on CDC operations and outcomes.

The specific study objectives were to (1) analyze the accreditation process, (2) examine the effect of accreditation on CDC staff, (3) explore the perceived effect of accreditation on child outcomes, and (4) assess the incremental value of accreditation over the benefits associated with DoD certification.

To achieve the study objectives, the study design relies on three different data sources:

1. Relevant military and National Association for the Education of Young Children (NAEYC)¹ documents;
2. Data collected from a worldwide mail survey of child development (CD) directors;
3. One-on-one interviews with respondents on 17 local installations and four Major Commands, including military personnel, CDC employees, parent users of child care, and kindergarten teachers.

The installation sample was chosen to reflect a range of MCCA implementation and accreditation experiences. Installations were categorized according to the degree of difficulty they had experienced with the overall implementation of MCCA requirements. Installations were also categorized according to the presence (or absence) of at least one accredited center. Those installations with one or more accredited centers were further divided into early, middle, and late accreditors according to the date of accreditation of the first center.

Study Findings

DoD Inspection and Certification

The MCCA established a program of four yearly unannounced inspections of each CD program to ensure compliance with statutory requirements. If inspection reports confirm that a child development program is operating in compliance with military standards, DoD issues one-year certification.

¹The National Academy of Early Childhood Programs, a division of the National Association for the Education of Young Children, offers the only set of standards for early childhood programs that leads to national accreditation (Hayes et al., 1990). We use NAEYC throughout the text to refer to both NAEYC and NAECP because that term is more widely known.

Accreditation

NAEYC has established a set of professional quality standards that must be met for a child development center to become accredited. These standards were developed on the basis of a review of the available literature regarding child development and child care quality, as well as on the basis of the judgment of 175 early childhood specialists (Hayes et al., 1990).

NAEYC's standards incorporate two types of indicators: structural elements, such as group size, caregiver-to-child ratio, caregiver training, available space, and equipment (e.g., Berk, 1985; Fosburg, 1981; Ruopp et al., 1979), and indicators of children's daily experiences in care, such as how caregiver and child interact (e.g., Anderson et al., 1981; Carew, 1980; Rosenblith, 1992). Of the two indicator categories, the latter is more closely linked to developmental outcomes (Belsky, 1984; Bredekamp, 1986).

Achieving accreditation requires completion of a three-step process that includes (1) a self-study, (2) a site validation, and (3) a commission decision (NAEYC, 1991). The self-study is guided by four principal instruments. The first is an early childhood classroom observation scale that is used by CDC caregivers to rate their own classrooms and teaching activities. Other instruments used during the self-study include surveys of both CDC staff and parents.

When the self-study is completed, a decision is usually made to proceed to a validation visit. The purpose of the validation visit is to verify that the results of the self-study submitted by the CDC staff accurately reflect the daily operations of the center. A three-person accreditation commission, consisting of a diverse group of early childhood professionals, reviews all materials and decides to either grant a three-year accreditation or defer it.

The Accreditation Process

For the most part, the accredited centers in our sample embarked upon the accreditation process at the behest of Major Command representatives or others in the child development hierarchy. The accreditation process proved time-consuming and labor-intensive. Mail survey respondents reported on average that the initial accreditation process took one year from beginning to final completion. Work done for accreditation almost always took place during regular work hours.

Training curriculum specialists were universally considered to be critical to the accreditation process. As this position was created by the MCCA, there is little

doubt that widespread accreditation of CDCs would have been very difficult, if not impossible, to achieve before the implementation of the act.

Accreditation Effects

The most significant effect of accreditation was evidenced in caregiving activities. Self-study resulted in more child-initiated and child-controlled activities. Accreditation also resulted in activities better suited to particular age groups. Other improvements resulting from accreditation included the acquisition of better equipment, both indoors and out, as well as improved learning centers. The prestige of accreditation and the recognition for having met a nationally recognized standard was the most frequently reported benefit among interviewees.

Improved caregiver interactions with children were facilitated in at least some CDCs by significant changes in policies and operations, e.g., fewer group changes during the day as group sizes declined.

Most parents thought that accreditation through NAEYC was a good thing, even though few were attuned to the details of the process. Most CDC personnel believed that the quality of care had substantially increased because of an accreditation process that stressed overarching goals and staff training and empowerment.

Although we asked directly, CDC staff had difficulty describing the effects of accreditation on child outcomes. For most, there was a sure sense that children had benefited and continued to benefit from accreditation. But most of these benefits were inferred—from better equipment, more group stability over the course of the day, higher staff morale, and a clearer sense of key delivery goals.

Commanders, command representatives, and Morale, Welfare and Recreation (MWR) directors and service commanders at the installations visited by RAND expressed a wide range of opinions on the accreditation process. Most favored accreditation, despite a lack of knowledge about accreditation requirements.

Views among those individuals who did not support accreditation ranged from skeptical to openly hostile. They argued that the costs in personnel time outweighed any benefits that could be had through meeting accreditation standards. Since these individuals saw neither the need for nor additional benefits from accreditation, recognition by NAEYC seemed unnecessary and amounted to “overkill” in child care regulation.

Discussion

Study results show that the accreditation process is both time-consuming and labor-intensive. To a large extent, the most time-consuming and difficult problems that had to be overcome during the initial accreditation process were facility deficiencies. CDC coordinators who had successfully completed the accreditation process believed that accreditation was doable as long as there was sufficient command support to make changes identified in the self-study process.

The effect of accreditation was judged by nearly all to be overwhelmingly positive. The most frequently cited benefit among survey respondents was higher staff morale and pride. The second most frequently cited set of benefits related to program improvements such as better-defined goals, higher-quality care, and more innovative programs.

Comparison of DoD certification standards with those specified by NAEYC reveal considerable overlap. The NAEYC requirements, however, go beyond the minimum certification standards and provide very explicit instructions for staff-child interactions, curriculum content, environment, staff-parent interactions, developmentally appropriate activities, and evaluation. An advantage of accreditation over certification is that NAEYC standards expressly consider the goals of child care, rather than focusing on meeting specific requirements. In this way, the accreditation process becomes oriented toward providing good quality care rather than passing a checklist mandated by law. As such, accreditation complements and builds upon certification standards.

Conclusions

It was not possible to directly measure the effect of accreditation on child outcomes, but there can be little doubt that accreditation improves the quality of care provided, not only in those centers with lower pre-accreditation quality of care, but also in initially high-quality centers.

Studies of child development have found significant relationships between quality of care and child outcomes across a range of domains, including cognitive development, language skills, and social development. These studies have shown child-caregiver interactions to be of particular importance for child outcomes. Since accreditation is designed to particularly improve this aspect of care, it is reasonable to conclude that accreditation results in improved child outcomes, although empirical evaluation is still needed.

Respondents disagreed about whether the benefits of accreditation outweigh its costs; no one could cite data supporting his or her position. But it is clear that in many respects, the implementation of the MCCA has substantially reduced the costs of accreditation. In particular, the mandated training and curriculum specialist position in each CDC has provided each center with at least one person with a strong child development background who can devote a substantial portion of her workday to accreditation-related activities. Required caregiver training has increased the skill level and knowledge base of caregivers. The salary increase that caregivers won through the MCCA has increased both the quality and longevity of caregiving staff.²

Moreover, certification checklists that require many of the same physical attributes in CDCs that NAEYC specifies have resulted in physical plant improvements in many CDCs. Although plant improvements were cited by some respondents as a major and unfunded accreditation cost, the need for certification and increasing limitations on waivers have essentially moved this cost out of the accreditation category.

Given minimal incremental costs for accreditation and substantial apparent benefits, we conclude that universal accreditation of CDCs is a desirable and achievable goal. Indeed, as accreditations are achieved in initially less-able CDCs, we have every reason to expect that the benefits of accreditation for military children will become increasingly apparent.

²See Zellman and Johansen (forthcoming) for data on these points.

1. Background

Military Child Care Delivery

Today, roughly half of all military members have one or more children below school age (Inspector General, 1990). In more than 60 percent of these families, both parents work.

Many military spouses are themselves on active duty; 8.9 percent of all active duty spouses report that their spouse is also on active duty (DoD Health Care Survey, 1992).¹ In addition, the number of single parents in the military has steadily increased (Defense Eligibility Enrollment Reporting System, 1992). For these reasons, military child care has become a significant enterprise.

The Department of Defense (DoD) provides child care as an essential service to maintain readiness, increase productivity, and improve morale. Two settings predominate. The first is the CDC, which provides care for children on a fee-for-service basis. CDCs offer centralized day care at lower cost than is available in the private sector, and provide care not offered by the private sector.² The second type is FDC.³ Here, military spouses trained as family day care providers are authorized to care for up to six children in the government quarters that they occupy. Fees are assessed by individual providers. Other arrangements such as before- and after-school programs and parent cooperatives, as well as resource and referral services, are also encouraged.

There are now 534 child development centers (CDCs) throughout the world offering care for children as young as six weeks. The capacity for all CDCs and family day care (FDC) homes (including school-age spaces in youth facilities) as of March 1993 was 166,622 (Service Reports on the Bottom-Up Review, 1993).

¹This figure was derived using data from the 1992 DoD Health Care Survey, which is a stratified random sample of active duty and retired military households worldwide. The survey includes 13,721 active duty respondents; only active duty respondents were used in deriving data for this report. The response rate among active duty with dependents was 67 percent. The total number of active duty members was drawn from the Defense Eligibility Enrollment Reporting system as of September 30, 1992.

²Lower costs are possible because of subsidization of CDCs. The level of subsidization increased under the Military Child Care Act (MCCA)—to a point where subsidies were to match parent fees.

³The name for child care provided by military family members in the military quarters on base varies across the services. We use the term family day care throughout this report because it is used by both the Air Force and Marine Corps. The Army calls its program family child care, whereas the Navy uses the term family home care.

Despite rapid growth in the number of CDCs, there remains excess child care demand, which has led to concerns about the quantity of care. Incidents of child abuse in several CDCs have raised questions about the *quality* of military child care as well. The MCCA of 1989 was Congress's response to these concerns. The MCCA sought to improve the availability and quality of child care provided on military installations. An additional aim of the act was to standardize the delivery and quality of care across installations and military services, which in 1989 varied considerably. (See Appendix A for more discussion of the MCCA.)

Much of the act focused on changes to be made in staffing, training, compensation, and funding. But the MCCA also contained a provision that required at least 50 military CDCs to be accredited in accordance with the standards of a national accrediting body for early childhood programs.⁴ Accreditation of these 50 centers was to be completed by June 1, 1991. The 50 accredited CDCs were to serve as a "demonstration program" from which other nonaccredited centers could learn about best practice.⁵ An independent organization was to evaluate the effect of CDC accreditation on child outcomes. This evaluation would compare child outcomes in accredited and nonaccredited centers. Study data would shed light on the effects of accreditation and address the desirability of mandating that all military CDCs be accredited.

Accreditation Context

The MCCA's mandate to accredit 50 military CDCs and to examine the effect of such accreditation on child outcomes would dwarf civilian accreditation and evaluation efforts. Despite widespread consensus concerning the importance of key accreditation criteria for ensuring quality care and optimal child outcomes, few civilian centers are accredited, and no national outcome study has been conducted to date.

⁴The National Academy of Early Childhood Programs, a division of the National Association for the Education of Young Children, offers the only set of standards for early childhood programs that leads to national accreditation (Hayes et al., 1990). We use NAEYC throughout the text to refer to both NAEYC and NAECP because that term is more widely known.

⁵A systematic examination of the workings of the "demonstration program" was outside the scope of our effort. We were, however, told that some CDCs sent staff to the accredited centers to learn about the accreditation process and to observe good practice. Such efforts depended on local initiative; they were facilitated in some instances by Major Command child development staff.

Accreditation Rates

As of July 30, 1994, a total of 3,477 state-licensed centers were accredited nationwide out of a total of approximately 80,000 such centers (Bredekamp, 1994).⁶ Excluding the military CDCs, 4 percent of civilian centers are currently accredited.

Given that the decision to accredit a civilian center is virtually always a voluntary one, it can be reasonably assumed that centers that choose to become accredited are a self-selected group with high quality programs in place going into the accreditation process. Because of self selection and the high cost of assessing child outcomes, no randomized, controlled evaluation of the effect of accreditation on child outcomes has been conducted (Bredekamp, 1994). Small projects in several locations designed to facilitate center accreditations often do no evaluation at all; if they do, they tend to monitor center performance rather than evaluate child outcomes.

In sharp contrast to the 4 percent accreditation figure among civilian child development centers, nearly one-half of military CDCs are currently accredited, as shown in Table 1. This very high military CDC accreditation rate reflects both the MCCA accreditation demonstration mandate and the adoption of universal accreditation policies by both the Air Force and the Army.

In contrast to the Air Force and Army, the Marine Corps has developed no accreditation policy at all. The Navy, according to child development staff at all

Table 1
Accreditation Rates by Service

Service	No. of Accredited Centers	Total No. of CDCs	Percent Accredited Centers
Air Force ^a	154	179	86
Army	69	201	34
Navy	24	125	19
Marine Corps	3	29	10
Total	250	534	47

NOTE: Data are current as of October 11, 1994.

^aSince the Air Force required all centers on an installation to apply for accreditation as one program, NAEYC data indicate that the Air Force has accredited 87 programs.

⁶This figure includes 236 military CDCs.

levels to whom we spoke, was following a policy of universal "all-but-validation." This policy requires all CDCs to undergo the self-study process as if a validation visit would occur. Navy staff told us that the need to cover validators' travel expenses to centers outside the continental United States was the reason that the Navy has adopted its "all-but-validation" policy.⁷

The high rate of military CDC accreditation has also been facilitated by other MCCA mandates. In particular, MCCA staff training requirements and the requirement that there be a training and curriculum specialist employed in each CDC have increased organizational capacity and made accreditation a far easier process, as discussed below. Another MCCA mandate that has facilitated accreditation is the set of four no-notice inspections that each CDC undergoes annually. Successful inspections lead to certification of the program by the DoD. The requirements for certification and accreditation overlap to a substantial degree, as discussed in Section 5.

Accreditation Effects

Congress's intention to assess the effects of accreditation was stymied by several realities inherent in the passage of the MCCA. In particular, the requirement that the accreditation of the first 50 CDCs be completed by June 1, 1991, put the services into a difficult position. Implementing regulations for the MCCA were not published by the DoD until March 23, 1990 (DoD, 1990). Service regulations did not follow until some months later (U.S. Army, 1990; U.S. Marine Corps, 1990; U.S. Air Force, 1990; U.S. Navy, 1990a, 1990b). As discussed in the larger report of MCCA implementation (Zellman and Johansen, forthcoming), the immediate focus was on how to implement the many changes mandated by the MCCA, such as a revised parent fee structure, required staff training, and staff pay increases. Accreditation assumed at best an ancillary status. Moreover, even in the best of circumstances, accreditation was a complicated and time-consuming process. As the June 1, 1991, deadline for accreditation loomed, the services concluded that there was little choice but to pursue accreditation of those centers most likely to successfully—and rapidly—attain it. Consequently, the initial group of accredited centers included a disproportionately high number

⁷Navy Instruction OPNAVINST 1700.9C states that "Each center shall set achieving national accreditation as a goal or provide justification for not participating in this program . . ." Without proactive enforcement, such language may have created ambiguity concerning the Navy's accreditation policy. A new Instruction (OPNAVINST 1700.9D), which is currently in the Chief of Naval Personnel's office for signature, contributes to the ambiguity by stating, "Each center shall meet the standards for national accreditation by December 1996." Proactive enforcement would clarify the existing policy ambiguity.

of centers that were running high-quality and exemplary programs before accreditation.

Although facilitating the timely accreditation of the first 50 CDCs, the inclusion of many unusually well-run centers in the "demonstration program" undermined the goal of the accreditation evaluation. If the best centers were also the accredited ones, comparisons of accredited and nonaccredited centers would also be comparisons of better and less good centers. If the accredited centers produced better child outcomes, there would be no way to determine whether the effect was due to accreditation, to the better initial center program, or to some unique benefit realized when already-good centers undergo the accreditation process.

As discussed below, the need for repeated measures of individual children, trained examiners, geographical dispersion of sample sites, and a high projected rate of turnover in individual CDC populations made the cost of such a study very high. Given the biased nature of the "demonstration program" centers, such a study could not authoritatively determine the value of accreditation. Thus, DoD staff concluded that the cost of its implementation was not justified.

Given these realities, RAND, in consultation with PSF&E staff, set out to develop a research plan of more limited scope that would incorporate to the extent possible the objectives in the MCCA, given the existing design constraints.

The final accreditation study design employs a variety of different methods that together converge to assess the effect of accreditation on CDC operations and outcomes. The specific details of the study design and methodology are described in Section 2. This section also lays out the specific objectives of this study. Sections 3 and 4 present study findings. Section 3 describes the process of accreditation. Section 4 describes its effects. Section 5 presents these results in the context of study objectives. This section also discusses the contribution that this study makes to answering the policy question regarding the desirability of a universal accreditation mandate. Section 6 concludes the report.

2. Study Design and Methodology

The ideal study design to assess program effect is one that can rule out all competing explanations for the observed effects of the program under scrutiny. In practice, this generally means that the ideal study design is a randomized controlled study in which all variables except the variable of interest—for example, the presence or absence of accreditation—can be assumed to be equal across conditions. The most dependable way to ensure such equality is to randomly assign units to conditions. By so doing, all factors other than the variable of interest may be assumed to have been equalized. In the case of evaluating the effect of accreditation, this would mean that military CDCs to be included in the accreditation evaluation would have had to be randomly assigned to one of two groups—those seeking and achieving accreditation and those not—and then comparing child outcomes in accredited and nonaccredited centers.¹

Although this may sound simple, such a design presents a host of problems in the case of an accreditation evaluation. Indeed, the difficulties presented by deadlines, resource limits, and a number of other factors described below rendered a randomized, controlled study design infeasible. As already mentioned, the requirement that the first 50 CDCs be accredited by June 1, 1991, resulted in a group of CDCs being picked for early accreditation that were judged to be capable of achieving accreditation faster than other CDCs. This selection method meant that initial equality of accredited and nonaccredited centers could not be assumed—a key assumption for a randomized controlled study.

The next-best alternative to such a design is a quasi-experimental one in which a comparison group that as closely as possible resembles the study group is found by some other means. In such a study, statistical methods are used to control for differences between the study group and the comparison groups, since the groups cannot be assumed to be the same in all other ways. However, statistical procedures cannot control for underlying differences between groups that are not observable or measurable (Cook and Campbell, 1979). Given the way that

¹It would be important to ensure, if possible, that all CDCs in the accreditation condition do achieve accreditation status, since “dropouts” undermine the assumption of equality of all other variables achieved through randomization.

the first group of centers to be accredited was selected, we were forced to assume such differences.

A number of other problems threatened the validity of a standard outcome evaluation. One concerned time: Accreditation's effects on child outcomes are likely to occur only after a considerable but unknown amount of exposure to high quality care. Estimating the effects of accreditation is thus compromised by uncertainty regarding the required length of time for accreditation to have an effect, and by frequent moves on the part of military families, which means that many children, particularly when accreditation was just beginning and few CDCs were accredited, did not stay in accredited CDCs for long periods of time.

These methodological problems are compounded by the fact that with a nonrandomized design and a relatively small number of CDCs being accredited, it is impossible to control for the many different dimensions that are likely to moderate the effect of accreditation on child outcomes.

Finally, measuring child outcomes requires costly techniques such as in-classroom observations (Howes, 1993), one-on-one interviews, and individual tests that must be administered by well-trained professionals (e.g., Peabody Picture Vocabulary Test, Preschool Language Assessment). Moreover, these tests must be performed at least twice over the course of the study to be able to assess change. The costs of these measures would be further compounded by the study sample's necessary geographic dispersion. In light of the threats to the study's internal validity discussed above, measuring child outcomes appeared both prohibitively costly and unlikely to yield much valuable information.

For these reasons, it was decided by PSF&E staff, RAND, and DoD consultants to focus the accreditation study on several objectives that could be met. These objectives would provide useful information regarding the accreditation process, the effect of accreditation, and the costs and benefits of a universal accreditation policy.

The specific study objectives were to:

1. Analyze the accreditation process in terms of length of time, difficulty, etc.;
2. Examine the effect of accreditation on CDC staff (e.g., morale, professional development, child interactions);
3. Explore the perceived effect of accreditation on child outcomes;
4. Assess the incremental value of accreditation over the benefits associated with DoD certification.

To achieve the study objectives, the study design relies on three different data sources:

1. Relevant military and NAEYC documents;
2. Data collected from a worldwide mail survey of child development directors;
3. One-on-one interviews with respondents on 17 local installations, including military personnel, child development employees, parent users of child care, and kindergarten teachers.

First, relevant military and civilian documents were read and analyzed to obtain information about accreditation and certification requirements. This information provides the basis for a comparison of accreditation and certification processes and benefits.

These secondary sources of information are supplemented by two sources of primary data regarding the process associated with and the outcomes of accreditation and certification. The first is a military-wide self-administered mail survey regarding the implementation of the MCCA. This survey was mailed to all installations with a CDC, regardless of the accreditation status of the center. The survey was completed by the child development (CD) director. A total of 245 installations (80 percent of eligible installations) completed the mail survey. Of these, 80 had one or more accredited CDCs.²

The second primary data source derives from a series of face-to-face interviews conducted on a small number of installations specifically picked for the purpose of providing detailed information for this evaluation (see below for a description of the criteria for sample selection). These semi-structured interviews included command representatives and representatives of the organization in which CD was located, CD management and staff (CD director, training and curriculum specialist,³ family child care coordinator, caregivers), the youth activities director,⁴ and, at a subset of installations, parents and kindergarten teachers.⁵

²This survey focused on the implementation of key MCCA provisions; only limited attention was focused on accreditation. Detailed analyses of results from the survey will appear in Zellman and Johansen (forthcoming).

³The position of training and curriculum specialist takes different names in different services. We use this term because it is the most accepted one.

⁴We use the term youth activities, which is used by many programs, because it best conveys the current focus of most of these programs: sports activities for school-age children.

⁵CDC staff were asked to identify teachers who worked with large numbers of children from accredited CDCs and who had taught for a number of years so that they had the potential to compare child performance before and since accreditation. Similarly, we asked for staff to arrange interviews, if possible, with parents who had had a long association with the CDC that had begun before accreditation. Particularly in the case of parents, our requests resulted in a group of respondents who were, no doubt, more knowledgeable and involved than the average.

Interviews with parents and kindergarten teachers were initially planned during all installation visits. However, the initial interviews with these respondents provided little insight into the accreditation process or the MCCA implementation process. As discussed below, teachers rarely knew if their students had been in any organized preschool program, so they could not talk about the perceived effect of accreditation. Parents, although slightly more knowledgeable, could only rarely distinguish MCCA-based and accreditation-based changes. These interviews were therefore discontinued after six visits. The number and location of interviews conducted with parents and teachers are listed in Table 2.

Selection of the Installation Sample

The installation sample was chosen to reflect a range of MCCA implementation and accreditation experiences. The selection process was stratified by service. On the basis of information obtained from child development specialists in each service headquarters, installations with any CDC were categorized according to the degree of difficulty (easy, average, difficult) that they had experienced in the overall implementation of MCCA requirements. Installations were also categorized according to whether or not at least one CDC was accredited. Those installations with one or more accredited centers were further divided into early, middle, and late accreditors according to the date of accreditation of the first CDC. These categories were: (1) before June 1, 1991; (2) June 1, 1991—December 31, 1992; and (3) after 1992.⁶

The final selection criterion was location. Because the changes occurring in the military at the time of sample selection created considerable uncertainty regarding the future of many installations outside the continental United States, we limited our installation visits to those in the continental United States, but supplemented these visits with a visit to two major commands (see below) in the Pacific to obtain information about MCCA implementation experiences in that region. Within the continental United States, we attempted to obtain a geographically dispersed sample.

In all, the final study sample included 17 installations distributed evenly across the four services: four Air Force, five Army, four Navy, and four Marine Corps installations. The selected installations represent a mix of the categories discussed above. Two of the installations were classified as having had relatively

⁶Because MCCA-mandated inspections were ongoing throughout our study and our visits stretched over a long period of time (November 1992–July 1993), certification status was not built into the sampling design.

easy experiences with the MCCA implementation process. Ten were rated as average, and five were represented as having had a difficult time meeting the requirements of the act. Ten of the installations had successfully accredited at least one CDC; three of these had two accredited centers. Four centers in the sample had been accredited before the June 1, 1991, deadline. Seven were accredited between the summer of 1991 and the end of 1992; two received accreditation in 1993. Seven installations had no accredited center at the time of our visit although on three of these installations a CDC had completed the self-study and had submitted all the materials to the National Academy of Early Childhood Programs (see below for details). One installation was waiting for a validation visit, one had not passed on the first attempt, and one had failed to be accredited after two validation visits. The number of centers and the number of accredited centers at the installations visited are shown in Table 2.

In addition to the installation visits, interviews were conducted at four Major Commands: Pacific Air Force (PACAF), U.S. Army Pacific (USARPAC), Training and Doctrine Command (TRADOC), and the U.S. Military Academy (USMA).

Table 2
Installation Visits and Center Status

Installation	No. of Accredited Centers	Total No. of Centers	No. of Parent Interviews	No. of Teacher Interviews
Air Force				
Andrews, MD	0	1		
Barksdale, LA	1	1	3	3
Edwards, CA ^a	0	2	3	2
Little Rock, AR	1	1		
Army				
Fort Belvoir, VA ^a	0	2		
Fort Carson, CO	2	2	3	0
Fort Monroe, VA	1	1		
West Point, NY	0	1		
Stewart Army Air Field, NY	1	1		
Navy				
Annapolis, MD	1	1		
Long Beach, CA	2	3	4	2
Miramar, CA ^a	0	1		
Port Hueneme, CA	2	2	2	1
Marine Corps				
Cherry Point, NC	0	1		
Camp Pendleton, CA	1	4	3	3
Twentynine Palms, CA	0	2		
Yuma, AZ	1	1		
Total	13	27	18	11

^aInstallation that had completed self-study but that had not yet become accredited at the time of our visit.

To meet our first study objective, we begin with an overview of the elements of DoD certification and those of accreditation.

DoD Certification and NAEYC Accreditation

DoD Inspection and Certification

In addition to the range of new requirements included in the MCCA, the new law established a program of unannounced inspections to ensure compliance with MCCA requirements. The law mandated that unannounced inspections be carried out at each military CDC at least four times annually. In accordance with guidance from DoD, three unannounced inspections are carried out by installation personnel. These include at least one comprehensive health and sanitation inspection, one comprehensive fire and safety inspection, and one inspection led by a command representative with authority to verify compliance with DoD standards. This third inspection is to employ a multidisciplinary team with expertise in various health and safety standards prescribed for child care programs.

A fourth, unannounced comprehensive inspection is to be conducted by a high level of command—either a Major Command or higher headquarters. This inspection includes a review of CDC curriculum, staff, and training, and also assesses the safety and appropriateness of indoor and outdoor equipment. Issues that are specifically addressed in the MCCA, such as uses of appropriated funding, child abuse prevention, and creation of parent advisory boards, receive extensive attention in the final inspection requirements. The comprehensive inspection also includes a review of family day care and any subsidiary or part-day programs offered by the Child Development Program. Parent interviews are conducted as part of the program evaluation.

The representative designated to perform the fourth program inspection must have expertise in early childhood development and also meet the validator qualifications required by the NAEYC. These qualifications include either a graduate degree in early childhood development and education or a bachelor's degree in a related field and at least three years of full-time teaching experience with young children.

Inspection reports are to be sent to the Deputy Assistant Secretary of Defense (Personnel Support, Families and Education). The results of the four inspections are used by the services to recommend programs for DoD certification. If inspection reports confirm that a child development program is operating in compliance with military standards, DoD issues certification. Any identified

deficiencies must result in immediate corrective action or, in cases of serious violations, closure of the center. If an identified deficiency is not life-threatening, the center may be permitted to stay open for the next 90 days. The secretary of the military department concerned can also authorize the CDC to continue operation by granting a waiver, if the violation cannot be remedied within 90 days, or if major facility reconstruction is required. Certification must be renewed every year.

Inspections rely on a detailed certification checklist. This checklist comprises 13 parts, which include:

- Facility and fire requirements;
- Program;
- Staff-per-child ratios and group sizes;
- Child abuse prevention;
- Staff training and qualifications;
- Food services;
- Funding;
- Certification/inspections;
- Parent participation;
- Health and sanitation;
- Other;
- Family day care; and
- School-aged child care.

Each of the above categories is rated using a four-point scale. The four scale categories include compliance, partial compliance, noncompliance, and not applicable.

Within the 13 rating categories, items range from the fairly straightforward and bureaucratic to the more qualitative and process-oriented. For example, under food services, one straightforward item asks inspectors to rate that "food service personnel and persons serving food exhibit good personal hygiene and use proper handwashing techniques." A more qualitative item in the same category states, "to the extent appropriate for the age of the children, meals are served family-style and children participate in all phases of the meal service."

Once the ratings are completed, inspectors produce a Child Development Program Certification Report. This report includes summary ratings based on

observations in each of the 13 categories. These summary ratings concern deficiencies, and range over four categories: no deficiencies, minor deficiencies, major deficiencies, and major, potentially life-threatening deficiencies. Definitions for each type of deficiency are provided. The report concludes with a summary rating concerning deficiencies. In the case of uncorrected major deficiencies, the inspector is asked to certify that an action plan is on file for correcting major deficiencies in a CDC that remains open. An expected compliance date for correction is entered into the report. For major deficiencies that require closure or partial closure of a CDC, the inspector must indicate that a plan for restoring service exists if the CDC is to reopen, and an expected compliance date is noted.

A key feature of the inspection process is a post-inspection outbrief by the inspection team to the Commanding Officer at the installation. This outbrief makes the results of the inspection highly visible to the CO, and generally increases the visibility of the CDC as well. Because the inspection results will be made available to the CO's superiors, the CO has a clear stake in receiving a good report and in responding quickly to remediate any identified deficiencies.⁷ Indeed, several CDC directors told us that inspection reports are a powerful tool for getting needed and often long-sought-after resources. Some told us that they even point out deficiencies to the inspectors to ensure that they will come to the attention of the commander.

Over time, inspection procedures have been modified to some degree. For example, the Air Force divided the fire and safety inspection into several components, including a one-time structural fire safety inspection, an annual operational fire safety inspection, and an annual operational safety inspection. In addition, NAEYC accreditation requirements were incorporated into the Air Force checklist. In most services, willingness to issue waivers on the basis of inspections has declined over time as command has increasingly questioned the difficulties Commanding Officers report in bringing CDCs up to standard.

Accreditation

NAEYC has established a set of professional quality standards that must be met for a child development center to become accredited. These standards were developed on the basis of a comprehensive review of the available literature regarding the relationship between child development and child care quality,

⁷In some contrast, accreditation processes do not come under such direct military scrutiny. This is a key reason why both certification and accreditation processes add to CDC quality. (See para. 3, p. 39, for further discussion of this point.)

and on the basis of the judgment of 175 early childhood specialists (Hayes et al., 1990).

NAEYC's standards incorporate two types of indicators: structural elements, such as group size, caregiver-to-child ratio, caregiver training, available space, and equipment (e.g., Berk, 1985; Fosburg, 1981; Ruopp et al., 1979), and indicators of children's daily experiences in care, such as how caregiver and child interact (e.g., Anderson et al., 1981; Carew, 1980, Rosenblith, 1992). Of the two indicator categories, the latter is more closely linked to developmental outcomes (Belsky, 1984; Bredekamp, 1986), with caregiver-child interactions particularly closely associated with child development outcomes such as gains in cognitive development (Hayes et al., 1990).⁸ Indeed, indicators in the first category, structural aspects of care, are considered to be important because their presence supports and facilitates more optimal interactions (Belsky, 1984; Ruopp et al., 1979).

Of the structural variables, three have received the widest attention: group size, caregiver-to-child ratio, and caregiver qualifications.⁹ Of these, group size has been found to have the most consistent and pervasive effects on caregiver and child behavior in child care centers and on children's gains on cognitive tests (Ruopp et al., 1979). The findings for caregiver-to-child ratios are mixed, with lower ratios being more consistently associated with positive child outcomes for infants and toddlers than for preschoolers (e.g., Ruopp et al., 1979; Travers et al., 1979). Of the three aspects of caregiver qualifications considered—education, child development training, and work experience in child care—only specialized child development training was consistently related to preschoolers' development (Ruopp et al., 1979). Subsequent research has confirmed that child development training as well as overall education are important contributors to child outcomes (Hayes et al., 1990). In addition to these variables, low caregiver turnover has also been shown to be important for optimal child development (Hayes et al., 1990).

In addition to specifying standards of care, NAEYC also specifies goals for quality care, which serve to guide the provision of child care services. For example, although NAEYC specifies preferred caregiver-to-child ratios and

⁸Hayes et al. (1990) note, for example, that in the comprehensive study of Bermudian child care centers, caregiver speech to children was the strongest predictor of developmental progress (McCartney et al., 1982).

⁹Group size standards are based on the definition of a group as the number of children assigned to a staff member or staff team occupying an individual classroom or well-defined space within a larger room. Group size has both physical and psychological dimensions; a group of 20 with two adults is not the same psychological environment for children as a group of 40 with four adults, even though the staff-child ratio in each case is 1:10 (NAEYC, 1991). For this reason, staff-child ratios and group sizes, while related, are not identical.

group sizes by age, it makes clear that the goal of these ratios is to provide children with quality care by known providers. Consequently, frequent shuffling of children throughout the day and use of occasional part-time staff as a means of maintaining ratios is inimical to the overall goal of high-quality care. The specification of both standards and goals prevents the erosion of care in the service of maintenance of standards.

Achieving accreditation requires completion of a three-step process that includes (1) a self-study, (2) a site validation, and (3) a commission decision (NAEYC, 1991). In the military setting, the accreditation process begins by gaining approval from the installation commander (or other higher-level authority) and applying to the National Academy of Early Childhood Programs, a division of NAEYC. Once the initial application is processed, the academy provides the materials for centers to conduct a self-study. During the self-study process, CDC managers, staff, and parents work together to measure their caregiving practices against the criteria established by NAEYC.

The self-study is guided by four principal instruments. The first is an early childhood classroom observation scale that is used by CDC caregivers to rate their own classrooms and teaching activities. The scales establish rankings for the physical environment, quality of activities, curriculum, caregiver routines, staff interactions with children, and the protection of children's health and safety. The caregiver scales are then compared to those completed by CDC management, usually a team consisting of the training and curriculum specialist and the CDC director or assistant director. Once both groups complete the scales, differences of opinion are discussed and plans for improvement are developed to more closely meet NAEYC criteria.

Other instruments used during the self-study include surveys of both CDC staff and parents. The staff questionnaire addresses staff concerns and issues relating to administration and program implementation. This survey is completed by all staff members who work directly with children. The parent surveys allow parents to evaluate the program. Particular emphasis is given on this survey to questions concerning the quality of interactions between staff and parents. The staff and parent surveys are used to clarify staff issues, identify additional problems with child care delivery, and provide an overall evaluation of the program. The final instrument, an administrator workbook, aids the director in reviewing the administrative aspects of the program.

An important aspect of the self-study is the active involvement of center personnel in the evaluation of child care delivery. Indeed, the *first* of two major NAECP goals for accreditation is "to help early childhood program staff become

involved in a process that will facilitate improvements in quality . . ." (p. 1, NAECP, 1991). NAEYC materials emphasize that progress through the accreditation process depends critically upon the cooperation and participation of center staff. NAEYC does not establish a time limit for this part of the accreditation process; the pace is to be set by the individual program director. NAEYC recognizes that time allotted to the self-study varies according to the strengths and weaknesses of each program, as well as other constraints such as construction and staffing issues. Center managers are therefore empowered to decide whether and when to proceed with the next phases of accreditation.

When the self-study is completed and the decision to proceed to a validation visit has been made, the results of the self-study are collected and reported to the academy. Information is presented as a program description which has a standard format, organization, and length. This document facilitates the validation visit by laying out the program's level of compliance with NAEYC criteria. In cases of noncompliance, the program description provides an opportunity for the center director to explain any special conditions at the center that account for the noncompliance and to provide alternative methods for meeting NAEYC criteria. The staff of the academy review the program description for completeness, and contact center staff if additional information or modifications are needed.

All validators are highly qualified early childhood professionals who have been trained in validation procedures. The number of validators assigned depends upon the size of the program. A center serving fewer than 60 children will be visited by one validator. Larger programs are assessed by two. These visits usually last one day, although centers serving more than 120 children require a two- or three-day visit.

The purpose of the validation visit is to verify that the written program description submitted by the CDC staff accurately reflects the daily operations of the center. Validators meet with the center director, tour the facility, observe a sample of classrooms, interview caregivers in these classrooms, review records and written policies, and conduct an in-depth discussion with the director about the validation process. Validators do not make the actual accreditation decision, but report their findings on the accuracy of the program description to the academy. A three-person accreditation commission, consisting of a diverse group of early childhood professionals, reviews all materials and decides to either grant or defer accreditation. Granting accreditation requires a unanimous decision. A deferment must be accompanied by specific reasons and recommendations for improvement. Accreditation, when granted, is awarded for a three-year period.

Accreditation decisions are based upon the context of the program, its unique characteristics, and the overall level of compliance with NAEYC standards. Academy materials emphasize that the creation of a quality program for children is multifaceted. Consequently, NAEYC accreditors concern themselves with the important relationships among criteria that cannot be communicated solely through a listing of standards. Compliance with the "letter" of a standard may still result in a violation of its spirit; conversely, failure to meet a particular standard, e.g., a ratio, may not disqualify a center for accreditation.¹⁰

Frequent regrouping of children throughout the day to maintain child-to-caregiver ratios is a common example of compliance with a standard that violates a more important developmental concept: the importance of children's attachments to caregivers and play groups. Consequently, validators check that every attempt is made to provide continuity of caregiving and minimization of transitions while still utilizing recommended staff-child ratios (NAEYC, 1991).

NAEYC materials emphasize that there is no explicit weighting of criteria in the accreditation decision; much depends upon professional judgment. There is, however, an awareness on the part of the commission that some criteria are more important than others. For example, NAEYC asserts that the presence of a well-qualified specialist to direct the educational program is a more powerful predictor of classroom practice than are staff-child ratios and group sizes. Noncompliance with staffing criteria will not exclude a program from accreditation provided overall quality is high. The academy, however, takes a very strict position on noncompliance with a few key criteria. Inadequate supervision, the use of physical punishment, or any situation where children are judged to be at risk will result in an automatic deferral (NAEYC, 1991).

As the above description suggests, accreditation is not easily attained, even in high-quality centers. How difficult and time-consuming the accreditation process is depends on the amount of change required to meet accreditation standards. The next section describes the accreditation experience of the CDCs in our sample.

¹⁰This latter point is of particular relevance to military CDCs, as military requirements for group sizes and child-to-caregiver ratios are at the high end of, and sometimes exceed, recommended NAEYC standards, as discussed in Section 5.

3. The Accreditation Process

The Accreditation Decision

For the most part, the accredited centers in our sample embarked upon the accreditation process at the behest of Major Command representatives or others in the child development hierarchy. In some cases, the request received an enthusiastic response: Staff viewed it as a compliment and an opportunity to pursue a desired goal. In others, the response was less positive. CDC directors in these centers believed that the program was not ready, and did not want to risk deferment. In a few centers, often those headed by a director without a B.A. degree, the request was met with a great deal of concern, and some panic. These directors felt that they did not have the skills to direct the self-study, and did not know how or where to begin. In a few instances, substantial staff resistance complicated the initiation of the self-study process. Although such resistance generally diminished over time, in a few centers staff who continued to protest accreditation had to be asked to leave.

Time Required

Interviews with caregivers and CDC managers revealed that the accreditation process is indeed time-consuming and labor-intensive. At three of 14 installations that had completed the self-study, the staff had required more than one year to finish this part of the accreditation process. Four centers reported completing the self-study in six to twelve months. At seven installations, the self-study process had taken six months or less. Four centers reported delays in the self-study process because of facility renovations and lack of staff preparedness. In two of these cases, the self-study had required almost two years to complete. At three other installations, the beginning of the self-study process had been delayed because of the need for facility changes and additional staff training.

Mail survey respondents reported that the initial accreditation process took on average one year from beginning to final completion, although some required as little as three months. The difference in the mean time to accreditation for those centers accredited before June 1, 1991, and those accredited from June 1, 1991, through 1992 were not statistically significant at the 5 percent level. There was, however, a statistically significant difference in the length of time to accredit

between the last-accredited group of CDCs and the two earlier-accredited groups. The time required for the total initial accreditation process is presented in Table 3.

Allocation and Responsibilities

The self-study process involved a substantial time commitment for center directors and training and curriculum specialists. These employees reported having spent from one-quarter to one-half of their time on accreditation during the self-study process. Some training and curriculum specialists told us that accreditation had taken all of their time during the most intense periods.¹ The CD directors' involvement varied widely across installations, depending on the allocation of responsibilities and smoothness of the process. Usually, the CD director would apply to NAEYC, promote accreditation to the staff, and finish the administrative evaluation. The construction of classroom scales and the completion of the staff and parent surveys would be carried out and overseen by the lead caregivers, center directors, and training and curriculum specialists.

Work done for accreditation almost always took place during regular work hours, although one CDC director told RAND that she put in substantial time outside of regular center hours. Caregivers reported that they did this work during naptimes, which were usually devoted to training activities. The division of labor and time allotted to accreditation in the centers visited by RAND was driven, at least in part, by the timeframe designated by the MCCA. Several CDC directors in early-accredited centers reported that they had set the pace of the self-study to comply with the June 1, 1991, MCCA deadline, even when the schedule felt tight. In at least one of these centers, the director was more

Table 3
Months Required for Accrediting First CDC

Accreditation Date	No. of CDCs	Mean Months to Accreditation	Range
Before June 1, 1991	16	8	3-12
Mid-1991 to 1992	39	10	3-24
1993	20	15	3-36
Overall total ^a	75	11	3-36

^aThe overall total here is less than the total number of accredited centers (N = 80) in the survey sample because of missing data.

¹This was generally not a problem because training and curriculum specialists redefined their job during this period as working toward achieving accreditation.

strategic, submitting the program description and requesting a validation visit at times that would slow the process. The delays, she believed, would allow her to acquire needed resources that were noted as missing during a just-completed unannounced inspection. Extra time would also allow her to better prepare her staff for the validation visit.

Pressures to complete accreditation quickly have continued in the Air Force because of its universal accreditation policy. Under that policy, the goal was to have all centers accredited by October 1, 1993. Although inspectors could make recommendations for delayed accreditation in special cases, centers were pushed toward accreditation to meet the Air Force deadline.

The Army's accreditation mandate also contains a deadline: All CDCs must be accredited by December 1995. However, that deadline did not seem to be an issue during our visits in 1992 and 1993.

Experiences with the Self-Study and Validation Visits

Although accreditation of some military CDCs was carried out at an accelerated pace, most personnel in the early-accredited CDCs reported that the self-study process went smoothly if there were no major deficiencies in the program or facility. Overall, CDC directors thought the self-study was a good opportunity to improve communication among staff members and to clear up misunderstandings. Several CD directors reported that the teacher and parent surveys had revealed a lack of understanding of CDC policies and the need to explain program goals more clearly.

The enthusiasm and cooperation of center staff were a significant factor in the speed of the self-study process. CD directors commented that initial staff resistance and lack of preparedness at five facilities was an important obstacle to both starting and completing the self-study process. At two of these locations, initial concerns were overcome as the self-study progressed. At two others, lack of staff preparedness was an important issue in delaying the validation visit.

Parent cooperation is also an important aspect of accreditation. During the self-study, the caregivers in each room are encouraged to inform parents about accreditation, explain the importance of parent surveys, and to remind parents to return them. Special incentives, such as pizza parties or books, were sometimes

used to encourage parents to complete the survey. Seven CD directors reported that this classroom focus led to high response rates to the parent survey.²

The parent surveys typically revealed positive views of child care delivery, but little knowledge about child care policies or program goals. For many staff, promoting accreditation and involving parents in the process served as a positive reinforcement for the extra efforts needed to complete the self-study.

Caregivers and CDC directors at nine centers told RAND that they found the validation visits stressful, although several CD directors felt confident about the ultimate outcome. Staff members expressed concerns that validators would find the program inadequate or the self-study inaccurate. Some CDC personnel were concerned that the special problems of a military CDC would not be understood by individuals who customarily accredited civilian centers. The most problematic issues were higher military child-to-caregiver ratios, the length of time children spend in the centers each day, the use of classrooms for multiple programs, and the location of centers near other base activities, such as airstrips.³

Although most validation teams do indeed have more experience with civilian centers, CDC directors told us that NAEYC validators were usually aware of the unique circumstances operating in the military. This is not necessarily a benefit; one CDC director reported that her validation team initially had expressed skepticism about the quality of care available at military centers. Most of the CDC personnel interviewed, however, did not think that the differences between military and civilian child care presented substantial problems in the actual accreditation process. Indeed, one CDC director noted that the academy is aware that the services have frequent, unannounced inspections of their centers. She thought that the military's additional certification requirements had compensated for differences in standards that favored civilian centers, such as lower child-to-caregiver ratios.

The two centers that were deferred after the validation visit both reported problems with staffing. At one of these installations, a much larger center had been built and three programs had had to be consolidated. Staffing the new center and reorienting the children proved to be a difficult task. Delays in NAEYC's scheduling of the validation visit also resulted in a lack of preparedness when the actual visit came. The other center had lost its training

²Among this group, most CD directors reported that 80 to 100 percent of the parent surveys that had been sent home were returned. Rates were highest in small centers. The lowest response rate reported was around 60 percent, and the director claimed that this was a low-end estimate.

³One CDC director reported that a NAEYC validator refused to verify program compliance of her center because it was near an aircraft runway. It was, however, accredited after a second visit.

and curriculum specialist just before the second validation visit; the CD director attributed the failure to be accredited to her absence.

Successful completion of the accreditation process was complicated by problems with the center's physical environment in some cases. These included required facility renovations, room layout, and lack of equipment. Since adequate play space is extremely important in the NAEYC criteria, the teachers constructing the observation scales had to pay special attention to the organization of the play areas and the opportunities they afforded for gross motor development. One CD director whose program had failed to achieve accreditation maintained that the physical layout of the facility had been the greatest obstacle to achieving accreditation.

Overall, most CD administrators who had participated in a validation visit believed that the visit added considerable value to the self-study process. Knowing that people from outside the center and often outside the military would review staff ratings against what they themselves observed kept the self-study process more honest and more realistic, noted several respondents. One CD director told us that she had used the anticipated validation visit to reorient a self-study process that had begun on a wildly congratulatory note. By reminding staff that more objective eyes would be viewing their efforts, she was able to get them to change uniformly highly positive ratings of everything to more varied and realistic ones.

4. Effects of Accreditation

More Culturally Diverse Curriculum

The most commonly mentioned program deficiency revealed in the course of the self-study was a lack of multiculturalism in the curriculum. NAEYC requires that materials, images, and experiences at accredited centers reflect diverse cultures. To remedy the lack of multiculturalism, books that portray diverse cultures and multiracial dolls were purchased, and cultural holidays began to be celebrated. They were relatively easily added as a result of the accreditation process. Other improvements resulting from accreditation included the acquisition of better equipment, both indoors and out, as well as improved learning centers.

Improved Caregiving

However, the most significant effect of accreditation was evidenced in caregiving activities. Analysis of child-caregiver interactions during self-study frequently revealed inappropriate activities on the part of caregivers, who had a tendency to be too directive. Self-study resulted in more child-initiated and child-controlled activities. Accreditation also resulted in activities better suited to particular age groups and in more age-appropriate disciplinary techniques.

CDC staff members at nine of the installations with accredited centers reported that the self-study helped to clarify caregiving goals and helped caregivers to see that there was considerable room for improvement in terms of how they related to the children. These insights led to significant motivation to improve. Many respondents noted that the age-focused child development training that the MCCA-mandated training and curriculum specialists had begun to provide helped "enormously." Because of that training, newly motivated staff had the skills they needed to make changes in the ways they interacted with the children.

Increased Prestige and Recognition

The prestige of accreditation and the recognition for having met a nationally recognized standard was the most frequently reported benefit among interviewees. CD directors noted that increases in staff morale were linked to achieving a national standard. Part of the increase in caregiver morale may also

have been the result of the empowerment of staff that is one of the goals of the accreditation process.

The recognition of a quality program can also improve parent attitudes toward military child care. Numerous respondents noted that this is a particularly important benefit of accreditation for programs housed in older facilities that were not initially designed for child care. Respondents on several installations reported improved parent involvement as a result of accreditation, which is one of NAEYC's goals. In several centers, this came about because of a new policy of semiannual or quarterly caregiver-parent conferences. Achieving accreditation also helped boost opinions of child care in the military community.

The responses from the mail survey of CD directors were very consistent with the views expressed in the installation interviews. Overall, the effects of accreditation were described as very positive. Table 4 shows the survey responses regarding accreditation of the first center at each installation with one or more accredited CDCs. Of the 80 installations with one or more accredited centers, at least 75 percent responded that accreditation had improved staff morale, the definition of goals, and the overall quality of care. In the majority of cases, accreditation had led, in the respondents' view, to increased prestige in both the military and civilian communities, and had generated approval from

Table 4
Survey Responses on Effects of Accreditation (N = 80)

Reported Changes Resulting from Accreditation	% Reporting Noted Change	No. of Responses
Higher staff morale or pride	93	74
Better-defined goals	88	70
Higher-quality care	79	63
Greater respect in military community	75	60
Greater respect in civilian community	73	58
More innovative or child-centered program	70	56
Approval from superiors in military	69	55
Improved child outcomes	60	48
Greater parent involvement	41	33
Disapproval from superiors in military	3	2

military superiors. Only 3 percent of the responding installations reported that the accreditation process had incurred disapproval from military superiors.¹

Perceived Effect on Child Outcomes

As noted above, methodological considerations precluded a detailed assessment of the effect of accreditation on child outcomes. As a means of collecting some information on this issue, we decided to interview parents, kindergarten teachers who taught children from accredited centers, and CDC staff.

Parents and teachers interviewed at the first six installations had a lot to say about preschool children and about the advantages of preschool care, but were poorly informed about the MCCA, about the specific changes resulting from its implementation, and about accreditation. Kindergarten teachers had no direct contact with military child care programs, except in rare instances, e.g., one teacher had her own child in the CDC. Parents, although aware of changes having occurred, were usually unaware of the distinction between MCCA-induced changes and those resulting from NAEYC accreditation. Even the few parents who were informed about the origin of program changes could not distinguish their own child's age-related maturation from the effects of new curriculum and caregiving approaches.

Teacher Perspectives

Only two (of 11) kindergarten teachers interviewed had heard about the MCCA. Both of these teachers had greater personal involvement with military child care than the others. One had visited the local CDC and said that the director had mentioned the MCCA during that visit, but she was not able to recall any of the details of the act. The other teacher had learned about the safety and child abuse prevention provisions of the law when she enrolled her own child in the CDC. Aside from these special situations, the teachers had had no occasion to learn about the MCCA and were totally unaware of the intent of the law or its effect.

Virtually all of the teachers indicated that, in general, they are ignorant of children's preschool experience before their enrollment in kindergarten. Permanent records may list the preschool attended, but the teachers were usually not familiar with these records, at least early in the school year, when we

¹In one accredited center that we visited, CDC staff reported that military superiors were unhappy with accreditation because they believed that more stringent NAEYC requirements would make the center more costly to run.

interviewed.² Because teachers were not generally aware of the previous educational experiences of their students, they could not attribute any differences in kindergarten behavior or performance to the introduction of the MCCA, or even to the presence or absence of preschool experience.

Of the seven teachers who had some knowledge of individual student backgrounds, five thought that students who had spent time in preschool or child care before starting kindergarten were better prepared academically. They said that such children usually know songs, shapes, numbers, days of the week, and colors. One teacher thought that the skill level attained through the CDC preschool experience was very high and significantly better than that provided by Head Start.

Among those teachers who noted the benefits of preschool experience, two were critical of military child care programs that had changed their curricula to meet NAEYC standards. These teachers had heard complaints from parents that the creative and developmental curriculum in the local CDC did not prepare the children adequately for kindergarten. These teachers shared parent views. They reported that the children coming to their classes from such programs did not know their colors or numbers, and had difficulty standing in line, listening to instructions, and staying on a subject.

At a different installation where we did not interview teachers, both the CD director and the CDC director noted that the local elementary school teachers had been critical of the installation's child care program since accreditation. According to the CDC director, the kindergarten teachers maintained that the children from the CDCs were having more trouble standing in lines and concentrating on specific tasks than they had had in the past. The CD director and caregivers at this installation believed that the child-centered curriculum endorsed by NAEYC was the source of teacher complaints. CD staff were considering changing their routines during the last few months before children entered kindergarten. The CD director thought that a more structured program for the older children would teach them to comply with classroom rules and would eliminate most of the criticism from the kindergarten teachers.

Because there is very little direct contact between the elementary schools and the CDCs, teachers did not have any concrete suggestions as to how military child care might be improved. Most teachers recognized the need for better communication between institutions, and said they would be willing to visit the

²Several teachers told us that over the course of the school year, they came to know informally which children had attended preschool or child care, often during parent conferences.

child development centers and work with the caregivers. Two teachers said that they had contacted the before- and after-school programs on the local installations with specific problems and had found the personnel very responsive.

Parent Perspectives

Parents demonstrated wide variation in level of knowledge concerning accreditation. Of the 18 parents interviewed, ten knew whether the center their children were attending had been accredited. However, even these parents had only a general sense of what accreditation entailed. Several parents who had children enrolled at CDCs during the accreditation process vaguely remembered participating in parent surveys. Parent interviewees who participated in the Parent Advisory Board or who had had a long association with the center were the most aware of accreditation and more supportive of the process.

Most of the parents thought that accreditation through NAEYC was a good thing, even if they were not attuned to the details of the process. The standard comment was that accreditation sets a high standard for the centers and that an accredited center would probably have a greater commitment to quality child care. When asked about recent changes in the center, however, most parents who were aware of changes were unable to distinguish those brought about by the MCCA from those due to accreditation.

The majority of parents said that accreditation would have little or no effect on their decision to enroll their children in a military CDC. Although national recognition was an added nicety and a good means of ensuring standards, parents were most concerned about the conditions they themselves observed at the centers. The most important considerations were safety standards and a caring staff. If the parents believed that their children were receiving good care, the lack of accreditation did not pose a problem for them.³

Three parents expressed disappointment in the developmental curriculum at the preschool level. These parents were afraid that because the curriculum was not structured and directed, the children would not be able to function well once they entered regular school programs.

³The low level of parent knowledge or concern about accreditation is not surprising. Unlike civilian parents, military parents make child care choices in a highly constrained environment. Once parents decide on center-based care, they often have no choice concerning *which* center. And studies indicate that civilian parents often know little about quality indicators despite far broader choices (for a review of studies regarding parents' preferences for child care, see Johansen, 1990).

Aside from these complaints, most parents interviewed were impressed by the quality of care provided at military CDCs. Assessment of center care ranged from good to very enthusiastic. Several parents referred to care at the centers as "excellent" or "fantastic." Most parents reported very good relationships with the staff working at the centers, commending the caregivers for their attentiveness and concern for the children's welfare.

CDC Management Perspective

The CDC personnel who were directly involved in the implementation of MCCA and the accreditation of centers were uniformly very supportive of the recent changes that had come about through enactment of the law. Opinions on the necessity of accreditation for maintaining or expanding upon those standards, however, were mixed. In the centers that achieved accreditation early on, staff members generally believed that the process had not brought about substantial changes in the CDC program. Most of these respondents indicated that the CDC program was already high quality and developmental. In centers where accreditation came later or was a more difficult process, CDC personnel reported more dramatic differences in child care delivery after accreditation.

There was considerable consensus regarding the nature of these changes. Most respondents noted that caregivers' interactions with children were more thoughtful and respectful. There was less caregiver-directed and more child-directed activity. This led to a reduction in discipline problems in some centers. One CDC coordinator told us that children talked more to each other, so that less communication placed the caregiver at the hub. Caregivers seemed to have a clearer sense of why certain things were done, and therefore felt more empowered to make both decisions and changes. One CDC director, echoing the sentiments of many, believed that the accreditation process had opened staff eyes to true developmental care.

Improved caregiver interactions with children were facilitated in at least some CDCs by significant changes in policies and operations. One training and curriculum specialist, for example, noted that the NAEYC focus on developmental goals had substantially altered the way that maintenance of ratios was achieved in her CDC. Before accreditation, ratios were maintained at minimal acceptable levels as a means of minimizing costs. Consequently, if staff were called in but not enough children showed up, staff would be sent home. Reconfiguring of groups occurred frequently throughout the day. Since accreditation, the focus has shifted dramatically, and management of ratios now includes the child's perspective. Minimizing costs is viewed as far less important

than reducing transitions for children. Staff have also benefited from the change, with more stability over the day for caregivers as well. In two other CDCs, efforts to minimize transitions led to a new policy, whereby caregivers begin with a group of infants and move with the children until age three. In one of these CDCs, attachment was also reinforced by the assignment of a primary caregiver in each room for each child.

Although we asked directly, CD staff had difficulty describing the effects of accreditation on child outcomes. For most, there was a sure sense that children had benefited and continued to benefit from accreditation. But most of these benefits were inferred—from better equipment, more group stability over the course of the day, higher staff morale, and a clearer sense of key delivery goals. Like parents, staff were certain that all these changes were good for children, but they had no objective means of supporting these views.

Regardless of their perceptions concerning the programmatic effects of accreditation, staff at most centers reported that the process had increased the morale of caregivers and enhanced the reputation of the programs in the military community. In many locations, the accredited CDC was the only accredited center in the area.

In some locations, as noted above, accreditation conferred status on programs that had suffered in esteem because of a less than optimal physical plant. On several installations with multiple centers, CD decisionmakers had chosen to accredit centers jointly, so that the program in the older facility would benefit as well from the NAEYC imprimatur. In a few cases, this decision was challenged by military personnel, who pressured CD directors to attempt accreditation of the program housed in the newer facility first, as accreditation of this program was likely to be faster and cheaper to accomplish. In every such instance we learned of, CD personnel prevailed; they reported that the program in the older plant had benefited from the joint accreditation.

Military Personnel Perspectives

Although some military personnel were very supportive of accreditation efforts, concerns were frequently expressed about the costs of meeting yet another child care mandate. Many of these complaints were linked to the lack of an MCCA appropriation. Several commanders, command representatives, and Morale, Welfare and Recreation (MWR) directors and senior commanders, however, also questioned the need for accreditation given military certification standards.

Commanders, command representatives, and MWR directors and service commanders at the installations visited by RAND expressed a wide range of opinions on the accreditation process. Eleven commanders and command representatives and nine MWR or comparable representatives favored accreditation, despite a general lack of knowledge about actual accreditation requirements. All the individuals who favored accreditation indicated that they most valued the prestige of national recognition. In addition, these respondents valued the confirmation of child care quality and the fact that accreditation would focus on specific goals and requirements. They felt accreditation had drawn favorable attention to their child care programs and had improved their reputation in the military community. Even command representatives who disputed the military's obligation to provide child care would often agree that accreditation was a benefit and contributed to higher standards at CDCs.

Views among those individuals who did not support accreditation ranged from skeptical to openly hostile. Command representatives at four different installations either opposed accreditation, expressed misgivings about the process, or did not consider it an important issue for discussion.⁴ Three of the MWR directors interviewed thought that certification provided sufficient regulation for child care. Two others expressed mixed opinions, questioning, but not really opposing, accreditation. Both of these latter MWR directors commented that parents seemed to like accreditation, but it was difficult to say whether the benefits really outweighed the costs.

Those who did not support accreditation argued that the costs in personnel time outweighed any benefits that could be had through meeting accreditation standards. Since these individuals saw neither the need for nor additional benefits from accreditation, recognition by NAEYC seemed unnecessary and amounted to "overkill" in child care regulation. A few noted as well that a benefit often noted by CDC personnel—improved staff morale—was ephemeral, since high staff turnover occasioned by Permanent Change of Station (PCS) moves would soon leave a staff who had had no involvement in the self-study process.⁵ The most extreme position was expressed by a commander who disputed even the need for a developmental program and training and curriculum specialists. He stated that his main obligation was to "care for children, not develop them."

⁴At one installation, CD personnel reported that military personnel openly opposed accreditation, even though the command representative claimed to support the effort in the RAND interview.

⁵The need to reaccredit after three years would involve new staff in the new self-study process.

Accreditation Costs

The issue of accreditation costs is an important one, as one of the most frequently cited reasons that we heard for a center not being accredited was the lack of resources to make the facility changes necessary to meet accreditation standards.⁶

It is impossible to estimate how much it would cost the average remaining nonaccredited center to achieve accreditation, but it is informative to note that most respondents believed that the benefits of accreditation outweighed the costs associated with the process, suggesting that accreditation is at least *perceived* to be cost-effective. Whether this is in fact the case to a large extent depends on the amount of facility changes that must be effected to meet accreditation standards. However, given the substantial overlap between DoD certification and accreditation facility requirements, it seems likely that any remaining facility improvements necessary to achieve accreditation will be minor once a center meets certification requirements.

Once the one-time-only facility renovation costs are paid off, the out-of-pocket costs associated with accreditation mainly involve the cost of applying for accreditation, which ranges from \$100 to \$250, depending on CDC size, and the cost of the validation visit, which ranges from \$250 to \$600, depending on CDC size and, for installations outside the continental United States only, reimbursement of the expenses of the validators' trip to the CDC.⁷ The cost associated with making changes revealed to be necessary during the self-study obviously must be added to these costs. But MCCA-mandated training programs and training and curriculum specialist positions should make it possible to incorporate most, if not all, nonfacility changes revealed to be necessary during the self-study process into the regular activities of CDC staff with minimal cost.

Although there is no doubt that accreditation activities require a considerable amount of *time* on the part of the staff actively involved in the process, our respondents told us that this time was, with rare exception, found in the course of the day. Caregivers tended to conduct self-study activities during training time (usually naptime). Those who led the effort, usually the training and curriculum specialists, were able to devote a lot of time to accreditation by essentially redefining their job during this period as leading the accreditation effort. Hence, there is little reason to believe that the process will result in the need for substantial additional resources.

⁶This view is refuted by some headquarters staff who note that facility deficiencies should be resolved during certification and that NAEYC places minimal emphasis on facilities in any case.

⁷Application costs are often paid by the Major Command or headquarters.

5. Discussion

The discussion of study results that follows is organized around the objectives described above.

Accreditation Process

The study results show that the accreditation process is both time-consuming and labor-intensive. Because good centers were selected for accreditation first, they were accredited faster than CDCs that were accredited later. Assuming that the length of the accreditation process reflects the difficulty of or the amount of change involved in the accreditation process, the difference in length of time to accreditation between the two first accredited groups and the last group of accredited centers that we found in our survey data is not surprising. Furthermore, the average time required for accreditation of those CDCs that are still not accredited is likely to be at least as long as, if not longer, than that for the first groups of centers.

To a large extent, the most time-consuming and difficult problems that had to be overcome during the initial accreditation process were facility deficiencies. In some places it was felt that the facilities were so inadequate that it was impossible to obtain accreditation. However, several CDCs were accredited despite being located in buildings that were far from ideal. Thus, facility conditions do not necessarily prevent a CDC from achieving accreditation.

There were substantial differences across services in the approach to the accreditation process. Both the Air Force and the Army established policies requiring that all CDCs be accredited. The Air Force took its deadline very seriously and spent considerable resources to help CDCs prepare; for example, Major Commands provided a child care expert who spent three days in a CDC preparing for the validation visit and who then returned for a final day's visit right before the visit occurred. The Army appeared to be less active in helping CDCs meet its considerably later deadline.

The Air Force emphasis on meeting the deadline appeared to have both positive and negative aspects. It was positive because it served as a motivating factor in centers that had been reluctant to begin the accreditation process. It was also useful because the Major Command child care consultant provided constructive

guidance about required program and facility changes needed to achieve accreditation. But the pressure may have been detrimental in some cases because the pace of the process was no longer determined by staff, but by an external deadline. One benefit to the accreditation process—the sense of team building—may therefore be attenuated by external deadlines.

The lack of a strong accreditation policy in the Navy or Marines slowed the process. The Navy's apparent policy, which stops short of validation, denies Navy CDCs the benefits that a pending validation visit provides, as discussed above. At the very least, the implicit assumption—that the validation visit adds minimal or no value—should be empirically tested.

CDC directors who had successfully completed the accreditation process believed that accreditation was doable as long as there was sufficient command support to make changes identified in the self-study process. It was also important to plan the specific steps involved in the process and to establish deadlines. In the places where there is staff opposition to accreditation, it is important to overcome this opposition as early as possible. Finally, and perhaps most importantly, it is important to allocate the resources necessary to get the job done. This may be done most effectively by incorporating the accreditation process into the staff's daily activities, for example, by conducting the necessary training during regular training time.

Training and curriculum specialists were universally considered to be critical to the accreditation process. In those places where the CDC director did not have a degree in child development, the training and curriculum specialist played a particularly crucial role. As this position was created by the MCCA, there is little doubt that widespread accreditation of CDCs would have been very difficult, if not impossible, to achieve before the implementation of the act.

Effect of Accreditation

The effect of accreditation was judged by nearly all to be overwhelmingly positive. Both mail survey respondents and CDC staff interviewed in person report a large number of beneficial effects of accreditation. The most frequently cited benefit among survey respondents was higher staff morale and pride. The second most frequently cited set of benefits related to program improvements such as better-defined goals, higher-quality care, and more innovative programs. Greater respect and approval from either the civilian or military community was also frequently cited as a valuable benefit of accreditation. Improved child outcomes were cited by fewer respondents than the other benefits, but still by

more than half. Thus, more than half of survey respondents cite eight different types of benefits of accreditation.

It is interesting to note that even the first centers to be accredited—most likely the best-run ones—reported a positive effect of accreditation in terms of staff morale and pride and in terms of better definition of program goals. Part of the reason for this is undoubtedly related to the external approval the accredited centers receive, but in one center, staff reported that they were treated much better by CDC management as a result of accreditation. For example, for the first time they had been given scheduled breaks during the day.

A frequently mentioned benefit of accreditation was improved multicultural toys and curriculum, an area that even the best CDCs apparently had neglected before accreditation. One goal of NAEYC is to empower the caregivers in the centers, which is done in part by providing them with better training and improved skills for interacting with children. A frequently cited benefit of accreditation was increased professionalism, which was described as the result of knowing better what constitutes appropriate child development and appropriate developmental activities.

With respect to the effect of accreditation on child outcomes, it is clear that neither parents nor elementary school teachers were good sources of information in this important area. Parents were often ignorant of the changes brought about by either the MCCA or accreditation, and a few in fact voiced a preference for a type of curriculum based on principles in direct opposition to those advocated by child development experts. Some elementary school teachers were also very skeptical about accreditation, perhaps because very few accredited kindergarten programs exist. This is an unforeseen negative side-effect of accreditation that should be addressed in the places where it presents a problem, preferably by better communication between the CDC and the elementary schools.

Incremental Value of Accreditation over DoD Certification

To address the question of the incremental value of accreditation over DoD certification, it is necessary to compare and contrast the differences between the two processes. We do so below.

DoD certification standards provide a very thorough review of military child care programs, but have a different emphasis from those published in the National Academy's Accreditation Criteria and Procedures. Certification standards are organized along the provisions set out by the MCCA and so place

special emphasis on items that appear in the law. In addition to the MCCA-specific requirements, certification also sets goals for staffing, health and safety, and the physical environment. In most respects, these standards are very similar to those specified by NAEYC. The NAEYC requirements, however, go beyond the largely structural certification standards to provide very explicit guidance concerning interactive aspects of child care quality such as staff-child interactions, staff-parent interactions, developmentally appropriate activities, and evaluation. In addition, accreditation standards are more specific and prescriptive regarding curriculum content and environmental features.

Comparisons of the two sets of standards on environment and curriculum help to illustrate the qualitative differences between certification and accreditation. Certification and accreditation have identical standards for minimum usable indoor and outdoor play areas. NAEYC, however, provides specifics on room layout, storage areas, the provision of cushions and carpeted areas, and the variety of surfaces that should be incorporated into the playground. Both sets of requirements stress a developmentally appropriate curriculum, but NAEYC's program descriptions are much more extensive and include the type of activities, mix of activities, and the presentation of multicultural learning opportunities.

Differences in caregiver-to-child ratios has been a particular source of concern for military CDCs seeking accreditation. Military ratios and group sizes for infant and toddler care are at the high end of, and sometimes exceed, NAEYC's recommended standards.¹ However, because of NAEYC's focus on goals rather than standards noted above, NAEYC does accept out-of-standard ratios and group sizes if the program demonstrates a very high level of compliance with other key criteria. Consequently, ratios and group sizes have not proved to be an impediment to accreditation in military CDCs.

Another important difference between accreditation and certification is the relative emphasis on caregiver relationships with children. Certification checks that caregivers respond appropriately to children, but the certification checklist lacks any definition or standard for appropriateness. Certification verifies that staff have been trained in accepted guidance and discipline techniques and that children are not forcibly restrained or left alone. It is assumed that appropriate

¹Under military standards, the ratio for infants is 1:4 in a maximum group size of 8, and the toddler ratio is 1:5, with a maximum group size of 10. NAEYC-recommended ratios and group sizes for infants and toddlers are presented as a range, but the lowest levels are under those in the military standard. Military ratios and group sizes for two-year-olds are 1:7 and 14 rather than NAEYC's recommendation of 1:6 and 12. For children ages 3-5 years the military allows ratios of 1:12 and group sizes of 24 where NAEYC allows a maximum ratio of 1:10 and a group size of no more than 20.

behavior will follow from staff training, although the nature of that behavior is not explicitly stated in the certification criteria.

NAEYC sets out similar provisions for caregiver interactions with children but, in addition, offers very extensive descriptions of how caretakers are to relate to children in various situations. The NAEYC standards specify that staff express affection and respect through holding and talking with children, that they speak to children in a friendly and positive manner, that the children are encouraged to express their feelings, and that staff encourage cooperative behavior and use positive guidance techniques to cope with negative emotions. As noted previously, the academy also checks that the center provides continuity of care and that the number of transitions between classrooms and caregivers are minimized.

A more specific breakdown of the differences between certification and accreditation is set out in Table 5. As Table 5 shows, certification is more prescriptive than accreditation concerning child abuse prevention, specific hours of training, and background checks for personnel. Items that receive greater attention in the accreditation process include developmental activities, child-initiated activities, and specific interactions between children and caretakers. Multicultural curriculum and room layout receive attention only in accreditation standards.

It is NAEYC's emphasis on qualitative issues such as staff/child interactions and curriculum that most distinguishes accreditation from certification requirements. Although certification standards are extensive, rigorous, and evaluated by individuals with expertise in child development and CDC health and safety standards, they basically constitute a checklist for meeting DoD regulations and ensuring overall compliance with MCCA mandates. Indeed, certification has been likened to state licensing procedures in its focus on health, fire, and safety issues. The certification process assesses compliance with important, easily measurable standards, some of which proxy quality, e.g., staff-to-child ratios, but devotes little effort to assessing the quality of care itself. Hence, certification assures a minimum quality standard.² In contrast, the NAEYC accreditation standards place much more emphasis on the relationships between children and caregivers, the developmental appropriateness of the curriculum, and the working relationships among staff members. In addition, the accreditation

²This minimum standard represents an enormous improvement in quality and far less variation across CDCs than was the case before passage of the MCCA. The unannounced inspections that are the key component of the certification process are generally viewed as the critical factor in this quality improvement. A child abuse and safety violations hot-line, also mandated in the MCCA, has been helpful in targeting CDCs in need of immediate inspection.

Table 5
Comparison of Certification and Accreditation Standards

	Certification	Accreditation
Facility and fire requirements	Compliance with DoD facility & fire requirements Limits on total CDC capacity Minimum space requirements per child	Compliance with state & local safety & fire requirements Specific requirements for room layout, storage areas, & playgrounds
Program	Check-off for child initiated activities (no definitions) Review of curriculum materials (no criteria) Check-off for developmentally appropriate interactions (no definitions or guidelines) Staffing plan provides for continuity of care	Validators observe activities (defines child initiated activities) Review of curriculum materials (lists specific arrangements & mix of activities) Existence of a multicultural program Checks for materials with heterogeneous racial, gender, & age attributes Compliance with specific guidelines for caregiver-child interactions, positive guidance techniques Check for minimization of transitions
Staff-per-child ratios & group sizes	Check-off for ratios & group sizes (more children per caregiver, larger group sizes than accreditation standards)	Examines ratios & group sizes in context of total program (fewer children per caregiver, smaller group sizes)
Child abuse prevention	Lists extensive & specific precautions, provisions for child abuse hotline	General precautions; reporting expected Code of ethical conduct
Staff training & qualifications	Required background checks for personnel Specific hours for caregiver training Training to meet the DoD caregiver wage plan	Suggested background checks for personnel Recommendations for ongoing training
Food services	DoD guidelines for food preparation Specifies family-style meals	Confirms compliance with applicable guidelines for food preparation and nutritional needs Checks for communication with parents concerning food service Specifies meal service guidelines

Table 5 (continued)

	Certification	Accreditation
Funding	Fee structure based on rank Specific uses for APF & NAF funding	No standards regarding fees
Certification /inspection	Review of quarterly inspections, renewal	Renewal every three years
Parent participation	Presence of parent advisory board required	Parent cooperation encouraged, no requirements for ongoing participation
Health & sanitation	Compliance with service health standards, including immunizations & denial of service based on health	Compliance with state & local health & safety requirements Checks for health record maintenance & sick child exclusion policies
Other	Program meets service safety standards; handicapped children served when possible	Specifies appropriate management of special needs children
Family day care	In-home care allowed only if subject to unannounced inspection Provider screening required Provider training and annual retraining required Quarters must meet health & safety standards	No review
School-age child care	Staff screened to meet service qualifications Facilities meet applicable requirements Ratios do not exceed those prescribed in Service regulations Children must sign in & out Caregivers receive training	No review

NOTE: Row headings represent certification checklist categories. Cell entries do not include all criteria but focus on key standards and comparisons.

process presents overarching goals that allow CDC staff and validators to put measurable standards in a context of quality. Thus, accreditation goes beyond certification standards to examine and validate the presence of staff-child interactions and other processes that are the hallmark of high-quality care. In this way, accreditation complements certification.

In general, certification sets out basic guidelines for establishing a quality program and accreditation operationalizes these guidelines. The certification inspections evaluate programs at a general level and consequently do not involve the classroom and caregivers to the extent that accreditation does. Because accreditation involves the caregivers and staff directly in self-evaluation, CDC directors and training and curriculum specialists believe that it has a greater effect on staff behavior than certification and its standards do. Because of the emphasis on checklists and overall program compliance with MCCA and DoD standards, certification reflects less about the actual delivery of child care at any given facility than does accreditation. The provisions under certification should therefore be considered necessary, but not sufficient, conditions for achieving the standards set by accreditation.

An additional advantage of accreditation over certification is that NAEYC standards expressly consider the goals of child care, rather than focusing exclusively on meeting specific requirements. In this way, the accreditation process becomes oriented toward directly improving the quality of care, and builds on the necessary but minimum quality standards required by the certification process.

The more qualitative, goal-focused accreditation approach has, in some sense, a very different audience than the more standards-based certification process. As a MACOM child development specialist noted, the MCCA and the resulting inspections and certifications have resulted in greater command emphasis on child care, and have given commanders the direction and focus necessary to improve its delivery. The more process-oriented accreditation approach, she said, found its primary audience among caregivers, who provide higher-quality care because of the self-study process, the goal-oriented approach, and the empowerment that they experience in achieving accreditation.

Further, several of the CDC personnel whom we interviewed noted that in contrast to the validation visit, about which several respondents used the term "empowering," inspection visits were characterized as focusing on aspects of the program that are lacking or flawed. Several respondents noted that this process decreased morale and undermined the team-building that occurred during accreditation. At the same time, it was frequently noted that bad inspection reports *were* effective in gaining the resources necessary to make improvements. Indeed, one CDC director told us that after many unsuccessful efforts to get needed equipment, an inspection report noting its absence brought an almost immediate delivery.

In short, there is ample evidence that accreditation provides a range of additional benefits over the DoD certification process alone. This conclusion is supported by the responses to survey questions about the effect of the MCCA and accreditation in terms of bringing about changes. When asked whether the MCCA or accreditation had been more important in bringing about changes in their programs, 75 percent of respondents indicated that accreditation had been as important or more important than the MCCA in bringing about changes, suggesting that the accreditation process is widely perceived as bringing about significant additional changes to CD programs above those achieved through MCCA compliance.

What is also clear when examining the relationship between certification and accreditation is that successful, widespread accreditation of CDCs depends on MCCA mandates. Required training and the employment of training and curriculum specialists, in particular, created the necessary conditions for accreditation across a broad range of CDCs. Without them, only the highest-quality centers could have successfully achieved accreditation. As a MACOM child development specialist said, the act “gave us the resources to do it (accreditation). You couldn’t do one (accreditation) without the other (MCCA).”

6. Conclusions

It has not been possible to directly measure the effect of accreditation on child outcomes, but there can be little doubt that accreditation improves the quality of care provided, not only in those centers with lower pre-accreditation quality of care, but also in initially high-quality centers.

The heavy focus on caregiver-child interactions in the self-study process and the emphasis on standards as a means of achieving important child-centered goals necessarily affects how caregivers interact with children, with parents, and with each other. Policy changes consistent with child-centered goals reinforce changes at the caregiver level in some CDCs as well.

Studies of child development have found significant relationships between quality of care and child outcomes across a range of domains, including cognitive development, language skills, and social development. These studies have shown child-caregiver interactions to be of particular importance for child outcomes. Since accreditation is designed to particularly improve this aspect of care, it is reasonable to conclude that accreditation results in improved child outcomes, although empirical validation is still needed.

Respondents disagreed about whether the benefits of accreditation outweigh its costs; no one could cite data supporting his or her position. But it is clear that in many respects, the implementation of the MCCA has substantially reduced the costs of accreditation. In particular, the mandated training and curriculum specialist position has provided each CDC with at least one person with a strong child development background who can devote a substantial portion of her workday to accreditation-related activities. Required caregiver training has increased the skill level and knowledge base of caregivers. The salary increase that caregivers won through the MCCA has increased both the quality and longevity of caregiving staff.¹

Moreover, certification standards concerning the allocation and use of space have resulted in physical plant improvements in many CDCs. Although plant improvements were cited by some respondents as a major and unfunded accreditation cost, the need for certification and increasing limitations on waivers have essentially moved this cost out of the accreditation category.

¹See Zellman and Johansen (forthcoming) for data on these points.

Given minimal incremental costs for accreditation and substantial apparent benefits, we conclude that universal accreditation of CDCs is a desirable and achievable goal. Indeed, as accreditations are achieved in initially less-able CDCs, we have every reason to expect that the benefits of accreditation for military children will become increasingly apparent.

Appendix

A. The Military Child Care Act of 1989

The Military Child Care Act of 1989 (MCCA) was passed by both the House and Senate in November 1989. The goal of MCCA was to improve the availability, management, quality, and safety of child care provided on military installations. Its major components include:

- *An increase in the military's mandated contribution to the operation of Child Development Centers, to a 50 percent match between appropriated funds and parent fees¹*

This provision increases funds for some services but not for others. Priority for use of these funds should go to increasing the number of child care employees who provide direct care to children and to expanding the availability of child care. Other uses of funds are unlikely since that would require special approval from the Secretary of Defense.

- *The development of training materials and training requirements for child care staff*

Centers must designate an employee responsible for the delivery of the training and oversight of employee performance. This provision appears to address widespread Congressional concern over the quality of child care programs.

- *A pay increase for child care employees directly involved in providing care*

This provision compensates CDC caregivers at rates equivalent to that of other employees with comparable training, seniority, and experience on the same military installation.

- *Employment preference for military spouses*

Military spouses are given priority for hiring, or promotion within, the position of child care employee.

- *The addition of child care positions*

Competitive service positions (3700) are to be made available in the DoD for child care personnel. These positions may be filled by employees involved in

¹The match applied only to FY 1990, but has been continued under DoD policy.

training and curriculum development, child care administrators, supplemental care administrators, Child Development Center (CDC) directors, or family day care coordinators.

- *Uniform parent fees based on family income*

This change addresses concerns about affordability of child care by lower-ranked military personnel.

- *Expanded child abuse prevention and safety*

The MCCA directs the Secretary of Defense to establish and maintain a special task force to respond to child abuse allegations, and to establish and maintain a national child abuse and safety hotline that accepts anonymous calls. The legislation calls for four unannounced annual inspections with needed remedies to be made within 90 days, unless this requirement is waived by the secretary.

- *Parent partnerships with CDCs*

A board of parents at each military CDC is to be established at each center. Parent participation in the centers' programs is encouraged with reduced fees.

- *Report on five-year demand for child care*

The law instructs the Secretary of Defense to issue a report on the five-year demand for child care six months after passage. The report should include a plan for meeting demand and a description of methods for monitoring family day care providers.

- *Subsidies for family home day care*

Appropriated funds may be used to provide assistance to family day care providers as a means of providing these services at the same cost as CDC care.

- *Early childhood education demonstration program*

Fifteen percent (about 50) of the military child development centers are to be accredited by "an appropriate national early childhood accrediting body." These centers will be designated as early childhood education programs and will serve as models for CDCs and family home day care. The law also specifies that an independent body evaluate the effects of the accreditation on children's development.

References

- Anderson, C. W., R. J. Nagle, W. A. Roberts, and J. W. Smith, "Attachment to substitute caregivers as a function of center quality and caregiver involvement," *Child Development*, 52:53-61, 1981.
- Belsky, J., "Two waves of day care research: Developmental effects and conditions of quality" in R. C. Ansley (Ed.), *The Child and the Day Care Setting*, New York: Praeger, 1984.
- Berk, L., "Relationships of educational attainment, child-oriented attitudes, job satisfaction, and career commitment to caregiver behavior toward children," *Child Care Quarterly*, 14:103-129, 1985.
- Bredekamp, S., "The reliability and validity of the early childhood classroom observation scale for accrediting early childhood programs," *Early Childhood Research Quarterly*, 1:103-118, 1986.
- Bredekamp, S., National Academy of Early Childhood Programs, personal communication, 1994.
- Carew, J., "Experience and the development of intelligence in young children at home and in day care," *Monographs of the Society for Research in Child Development*, 45(6-7):Serial No. 187, 1980.
- Cook, Thomas D., and Donald T. Campbell, *Quasi-Experimentation: Design and Analysis Issues for Field Settings*, Boston, Mass.: Houghton-Mifflin, 1979.
- Department of Defense, Memorandum from the Assistant Secretary of Defense, "Implementing Guidance Required by the Military Child Care Act of 1989," March 23, 1990.
- Department of Defense, Service Reports on the Bottom-Up Review, 1993.
- Fosburg S., *Family Day Care in the United States: National Day Care Home Study, Vol. I, Summary of Findings*, Office of Human Development Services, DHHS Publication No. (OHDS) 80-30282, Washington, D.C.: U.S. Department of Health and Human Services, 1981.
- GAO, *Military Child Care: Extensive, Diverse, and Growing*, Washington, D.C.: U.S. Government Printing Office, 1989.
- Hayes, Cheryl D., John L. Palmer, and Martha J. Zaslow (Eds.), *Who Cares for America's Children? Child Care Policy for the 1990s*, National Research Council, Washington, D.C.: National Academy Press, 1990.
- Howes, C., Department of Education, University of California at Los Angeles, personal communication, 1993.